May 29, 2009

Sandra Paske
Public Service Commission
PO Box 7854
Madison, WI 53707-7854

RE:PSC Advanced Renewable Tariff Comments on 5-EI-148

Dear Ms Paske:

I am submitting comments on the recent publication of PSC 5-EI-148 in regards to the PSC adopting Advanced Renewable Tariffs in Wisconsin. My business, WES Engineering LLC which is headquartered in Madison, WI, is a wind energy development and project engineering company with nine years experience in developing wind projects from 100kW to 100MW in the Midwest. I have several Wisconsin projects that are in the 1-5MW category mentioned in the tariff. These projects have gone to great expense to monitor wind from specialized 200' tall wind measurement towers, prepare site drawings, geotechnical investigations for foundation design and financial analysis of all costs and revenues.

**I can say definitively that the proposed table of payments per kwhr shown as Table 3 on page 18 of the ART briefing memorandum will not provide the revenues needed by these projects to allow them to be built and operate.** One example is the City of River Falls; the University is tasked with providing 100% of its energy from Renewable power by the governor in his goals for Wisconsin universities. The wind measurement tower installed in the City business park on top of a hill indicates reasonable wind resource for Wisconsin, with net capacity factors for various turbines ranging from 23-27% and the installed cost in the $2400-$2500 per installed kw range (both items similar or better than that assumed in the briefing). **The project will need a tariff rate exceeding 11 cents per kwhr**, even if it can attract all the grants, low interest loans and other incentives now available to it, to succeed. There are several reasons that the smaller projects need higher tariff rates, some may have been ignored in the calculations of the numbers shown in Table 3 of the briefing, these include: The need to finance large equipment purchase down payment a year or more before the project starts to generate any revenue, expensive insurance to assure the lender that the project

equipment will always be operating or sufficient revenue provided to pay the loan, and sufficient revenues in years when the average wind speeds are much lower than the long term average. I would be happy to share the detailed project pro forma spreadsheet showing all cost assumptions and revenues versus expenses for 20 years.

The prices for smaller projects also needs to be increased proportionately above what is shown in Table 3. I have recently helped a college in Illinois purchase and install a 100kW wind turbine, and the $500,000 total project cost does agree with the $5,000/kW installed costs assumed in this size range, but a 12 cent/kwhr tariff rate would not allow a project to be installed in Wisconsin at even the windiest location in the entire State and show a payback in 20 years. That turbine will produce 75,000 to 100,000 kwhrs per year at most "windy" locations in the State adjacent a school or business, and at 12 cents per kwhr the annual revenue is $9000 to $12,000 per year at the proposed tariff rate. This amount of income has no chance to offset even a reduced project cost of $300,000 over a 20 year period assuming a simple payback. **A tariff rate exceeding 19 cents per kwhr is needed for the 20-200kW size project**, and the **200kW to 1MW size range needs a tariff rate exceeding 15 cents per kwhr** to allow successful installation of projects. The commission can set a diminishing price based on installed MW of projects, the first ten projects can receive the set rate and the subsequent ten projects will have the rate reduced 10% and the following ten reduced 20%. This assures that if the commissions set rate is too high that the tariff will incentivize the creation of a successful business model and then provide for decreased energy costs as the projects continue to be built.

Another concern in the briefing is the limits on total capacity to be installed by utility shown in the Table on page 27. I know this is the hypothetical example used to calculate cost, but I want to be sure the commission is developing a tariff for projects from 1-5 MW with capacity large enough for multiple projects of that size to be installed in communities served by each of these utilities.

The River Falls project is but one of many similar examples from around the state where communities are attempting to install generation nearby. These projects offer much to Wisconsin, using Wisconsin labor for construction and operations, Wisconsin wind as the fuel, and providing

emission free generation in communities that want to be leaders in demonstrating commitment to generating electricity without greenhouse gases. I applaud the Commission for adopting Renewable Tariffs and allowing many Wisconsin communities and businesses to participate in renewable energy projects, please consider setting the appropriate tariff rate that will assure the success of these community projects.

Sincerely,

Wes Slaymaker, P.E.
Project Engineer
wes@WESengineering.com
WES Engineering LLC
706 S. Orchard St
Madison, WI 53715
608-259-9304